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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,443	01/23/2002	Hans-Henning Zutz	31624-177199	1950

26694 7590 11/28/2003

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EXAMINER
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KYLE, MICHAEL J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/052,443

Applicant(s)

ZUTZ, HANS-HENNING

Examiner

Michael J Kyle

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (U.S. Patent No. 4,421,327) in view of Zutz (U.S. Patent No. 5,762,343).

3. Morley et al discloses a slide ring seal assembly comprising a slide ring (58) having an axially extending annular leg (114), the leg having radially outer (82) and radially inner (surface opposite 82) circumferential surfaces, and an axial free end. In addition, Morley et al discloses an annular sealing body (62) surrounding the leg (114) and being seated thereon, and a plurality of circumferentially spaced, radially inward oriented extensions (area between grooves 86) forming part of the annular sealing body. The inward oriented projections extend into recesses formed between lugs (76) on the radially outer surface.

4. Morley et al does not disclose circumferentially spaced recesses provided in the leg at the free axial end thereof, each recess extending from the radially outer surface to the radially inner surface, or that the inward-oriented extensions of the annular sealing body project into respective recesses.

5. Zutz teaches circumferentially spaced recesses (7) provided in a leg of a slide ring assembly at a free end thereof, the recess extending from one surface to another, opposite surface, and extensions of an annular sealing body (4) projecting into the recesses to improve

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adherence (column 2, line 67 – column 3, line 3). Zutz further shows the recess to continue with an extending undercut provided in the leg (part of aperture 7, shown in the figure), and the at least one extension of the annular sealing body (4) continues with a projection received by the undercut. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the axial leg of Morley et al by including recesses as taught by Zutz in order to improve adherence of the seal body to the seal ring.

6. With respect to claim 3, Morley et al discloses the leg to have, at the axial free end, on the radially outer surface, a circumferentially extending enlargement (76).

7. With respect to claim 4, Morley et al discloses the seal ring to be generally L-shaped (column 2, line 37) and have a radially extending slide sealing surface (110, 112).

8. With respect to claim 5, Morley et discloses a pair of sealing rings (56, 58) having their respective slide sealing surfaces in contact (110, 112), and a respective sealing body (60, 62) for each of the sealing rings.

9. With respect to claim 6, Morley et al discloses the sealing ring to be formed of metal (column 4, line 3) and the sealing body to be formed of a resilient material (“elastomeric”, column 4, lines 4 and 5).

10. With respect to claim 7, Morley et al discloses the sealing body to have a generally trapezoidal cross-section (see figures).

### ***Response to Arguments***

11. Applicant's arguments filed September 9, 2003 have been fully considered but they are not persuasive.

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12. Applicant argues that Zutz does not disclose an axially extending leg, and concludes that because Zutz is mounted on a radially extending leg, that it is subject to completely different forces than the claimed invention. Applicant also states that Zutz is not concerned with preventing relative motion.

13. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Morely et al discloses a slide ring seal assembly nearly identical to applicant's. Morely et al shows an axial leg. Zutz is cited to show a way to attach a seal to leg to allow for greater adherence. The fact that Zutz's seal is mounted on a radial leg as opposed to a radial leg is irrelevant. Zutz still provides the basic structure that is absent from Morely's invention that applicant has claimed. Zutz is concerned with creating greater adherence between the seal and a leg. Applicant is concerned with preventing relative motion. Zutz accomplishes this by providing a through hole with an under cut to which the seal is secured. Applicant employs the same structure used by Zutz to address a similar, although not identical, problem. Greater adherence between the seal and leg will lead to prevention of relative motion.

14. Applicant also argues that Zutz contains no description of the openings or apertures or of any specific shape required for the apertures or openings other than that they provided for improving adherence.

15. Zutz clearly shows an under cut to the apertures (7) in the figure. While there is no written description of these undercuts, it is clear from the figures that they act in an interlocking manner with the leg (2). This interlocking relationship provides for improved adherence.

*Conclusion*

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

20. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk

  
Anthony Knight  
Supervisory Patent Examiner  
Technology Center 3600